

University of Maine System	)	Departmental
Cumberland County	)	Findings of Fact and Order
Portland, Maine	)	Air Emission License
A-464-71-F-R	)	

After review of the air emissions license application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., Section 344 and Section 590, the Department finds the following facts:

## I. REGISTRATION

### A. Introduction

The University of Maine System (UM-Portland) has applied to renew their Air Emission License permitting the operation of emission sources associated with their Portland, Maine Campus.

### B. Emission Equipment

UM-Portland is authorized to operate the following equipment:

#### Fuel Burning Equipment

<u>Equipment</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Maximum Firing Rate (gal/hr)</u>	<u>Fuel Type, % sulfur</u>	<u>Location</u>
Boiler #1	11.2	75	#6 fuel oil, 2.0%	96 Falmouth St.
Boiler #2	11.2	75	#6 fuel oil, 2.0%	96 Falmouth St.
Boiler #3	16.8	112	#6 fuel oil, 2.0%	96 Falmouth St.
Boiler #4	4.2	4077 scfm	Natural Gas, Negligible	645 Congress St.
Boilers #5, 6, 7	3.0 (total)	2913 scfm	Natural Gas, Negligible	310 Forest Ave.
Boiler #8	2.0	14.3	#2 fuel oil, 0.5%	25 Bedford St.
Boiler #9	4.8	34.3	#2 fuel oil, 0.5%	46 Bedford St.
Boiler #10	1.1	7.9	#2 fuel oil, 0.5%	68 High St.
Diesel Generator	0.6	4.7	Diesel, 0.05%	Payson Smith Hall

### C. Application Classification

The application for UM-Portland does not include the licensing of increased emissions or the installation of new or modified equipment. Therefore, the license is considered to be a renewal of current licensed emission units only.

## II. BEST PRACTICAL TREATMENT (BPT)

### A. Introduction

In order to receive a license the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in Chapter 100 of the Air Regulations. Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

BPT for existing emissions equipment means that method which controls or reduces emissions to the lowest possible level considering:

- the existing state of technology;
- the effectiveness of available alternatives for reducing emission from the source being considered; and
- the economic feasibility for the type of establishment involved.

### B. Boilers #1, 2, & 3

Boilers #1, 2, & 3 were each installed prior to 1978. A summary of the BPT analysis for Boilers #1 (11.2 MMBtu/hr), #2 (11.2 MMBtu/hr), and #3 (16.8 MMBtu/hr) located at 96 Falmouth St. is the following:

1. The total fuel use for Boilers #1, 2, & 3 shall not exceed 300,000 gal/year of #6 fuel oil, based on a 12 month rolling total, with a sulfur content not to exceed 2.0% by weight.
2. Chapter 106 regulates fuel sulfur content.
3. Chapter 103 regulates PM emission limits. The PM<sub>10</sub> limits are derived from the PM limits.
4. NO<sub>x</sub> emission limits are based on previous licensed limits.
5. CO and VOC emission limits are based upon AP-42 data dated 9/98.
6. Visible emissions from Boilers #1, 2, & 3 shall not exceed 30% opacity on a 6 minute block average, except for no more than 2 six minute block averages in a continuous 3 hour period.

C. Boilers #4, 5, 6, & 7

A summary of the BPT analysis for Boilers #4 (4.2 MMBtu/hr) located at 645 Congress St., #5, #6, & #7 (3.0 MMBtu/hr total) located at 310 Forest Ave. is the following:

1. The total fuel use for Boilers #4, 5, 6, & 7 shall not exceed 10 million scf/year of natural gas, based on a 12 month rolling total.
2. PM limits for Boiler #4 are regulated by Chapter 103. PM limits for Boilers #5, 6, & 7 are based on emission rates from similar sources. The PM<sub>10</sub> emission limits are derived from the PM limits.
3. NO<sub>x</sub>, CO, and VOC emission limits are based upon AP-42 data dated 2/98.
4. Visible emissions from Boilers # 4, 5, 6, & 7 shall not exceed 10% opacity on a 6 minute block average.

D. Boilers #8, 9, & 10

A summary of the BPT analysis for Boilers #8 (2.0 MMBtu/hr) located at 25 Bedford St., #9 (4.8 MMBtu/hr) at 46 Bedford St., and #10 (1.1 MMBtu/hr) at 68 High St. is the following:

1. The total fuel use for Boilers #8, 9, & 10 shall not exceed 70,000 gal/year of #2 fuel oil, based on a 12 month rolling total, with a sulfur content not to exceed 0.5% by weight.
2. Chapter 106 regulates fuel sulfur content, however the use of 0.5% sulfur by weight fuel is more stringent and shall be used.
3. PM limits for Boiler #9 are regulated by Chapter 103. PM limits for Boilers #8 & 10 are based on emission rates from similar sources. The PM<sub>10</sub> emission limits are derived from the PM limits.
4. NO<sub>x</sub> emission limits are based on data from similar #2 fired boilers of this size.
5. CO and VOC emission limits are based upon AP-42 data dated 9/98.
6. Visible emissions from Boilers #8, 9, & 10 shall not exceed 20% opacity on a 6 minute block average.

E. Diesel Generator

A summary of the BPT analysis for the diesel generator (0.6 MMBtu/hr) located at Payson Smith Hall is the following:

1. The diesel generator is limited to the firing of 0.05% sulfur fuel by weight and a total of 500 hours/year based on a 12 month rolling total.
2. Chapter 106 regulates fuel sulfur content, however the use of 0.05% sulfur by weight fuel is more stringent and shall be used.

3. PM limits are based on emission rates from similar sources. PM<sub>10</sub> emission limits are derived from the PM limits.
4. NO<sub>x</sub>, CO, and VOC emission limits are based upon AP-42 data dated 10/96.
5. Visible emissions from the diesel generator shall not exceed 30% opacity on a 6 minute block average, except for no more than 2 six minute block averages in a continuous 3 hour period.

F. Annual Emission Restrictions

UM-Portland shall be restricted to the following annual emissions, based on a 12 month rolling total:

**Total Allowable Annual Emission for the Facility**  
(used to calculate the annual license fee)

<u>Pollutant</u>	<u>Tons/Year</u>
PM	5.7
PM <sub>10</sub>	5.7
SO <sub>2</sub>	49.6
NO <sub>x</sub>	13.9
CO	1.5
VOC	0.2

### III.AMBIENT AIR QUALITY ANALYSIS

According to the Maine Regulations Chapter 115, the level of air quality analyses required for a renewal source shall be determined on a case-by case basis. Modeling and monitoring are not required for a renewal if the total emissions of any pollutant released do not exceed the following:

<u>Pollutant</u>	<u>Tons/Year</u>
PM	50
PM <sub>10</sub>	25
SO <sub>2</sub>	50
NO <sub>x</sub>	100
CO	250

Based on the above total facility emissions, UM-Portland is below the emissions level required for modeling and monitoring.

## **ORDER**

Based on the above Findings and subject to conditions listed below, the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-464-71-F-R subject the following conditions:

- (1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which any emissions units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions.
- (2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in Chapter 115.
- (3) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both.
- (4) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request.
- (5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S.A. § 353.
- (6) The license does not convey any property rights of any sort, or any exclusive privilege.

- (7) The licensee shall maintain and operate all emission units and air pollution systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions.
- (8) The licensee shall maintain sufficient records to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request.
- (9) The licensee shall comply with all terms and conditions of the air emission license. The filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for a renewal of a license or amendment shall not stay any condition of the license.
- (10) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license.
- (11) In accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department, the licensee shall:
  - (i) perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility's normal process and operating conditions:
    - a. within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions; or
    - b. pursuant to any other requirement of this license to perform stack testing.
  - (ii) install or make provisions to install test ports that meet the criteria of 40 CFR Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and
  - (iii) submit a written report to the Department within thirty (30) days from date of test completion.
- (12) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicate emissions in excess of the applicable standards, then:
  - (i) within thirty (30) days following receipt of such test results, the licensee shall re-test the non-complying emission source under circumstances

- representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department; and
- (ii) the days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and
  - (iii) the licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.
- (13) Notwithstanding any other provisions in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or Part 70 license requirement.
- (14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect emission and that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next state working day, whichever is later, of such occasions where such changes result in an increase of emissions. The licensee shall report all excess emissions in the units of the applicable emission limitation.
- (15) Upon written request from the Department, the licensee shall establish and maintain such records, make such reports, install, use and maintain such monitoring equipment, sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such a manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status.
- (16) Boilers #1, 2, & 3
- A. Capacity shall not exceed 11.2 MMBtu/hr each for Boilers #1 & 2 and 16.8 MMBtu/hr for Boiler #3.
  - B. Fuel use shall not exceed 300,000 gallons/yr #6 fuel oil (12 month rolling total) with a maximum sulfur content of 2.0% by weight. Fuel use records shall be maintained on a monthly basis, in addition to the 12 month rolling total.

C. Emissions shall not exceed the following:

Equipment		PM	PM <sub>10</sub>	SO <sub>2</sub>	NO <sub>x</sub>	CO	VOC
	lb/MMBtu			-	-	-	-
	lb/hr						
	lb/MMBtu			-	-	-	-
	lb/hr						
	lb/MMBtu			-	-	-	-
	lb/hr						

D. Visible emissions from Boilers #1, 2, & 3 shall not exceed 30% opacity on a 6 minute block average, except for no more than 2 six minute block averages in a continuous 3 hour period.

(17) Boilers #4, 5, 6, & 7

A. Capacity shall not exceed 1.2 MMBtu/hr for Boiler #4. Capacity shall not exceed a total of 3.0 MMBtu/hr for Boilers #5, 6, & 7.

B. Fuel use shall not exceed 10 million scf/yr of natural gas (12 month rolling total). Fuel use records shall be maintained on a monthly basis, in addition to the 12 month rolling total.

C. Emissions shall not exceed the following:

Equipment		PM	PM <sub>10</sub>	SO <sub>2</sub>	NO <sub>x</sub>	CO	VOC
Boiler #4	lb/MMBtu	0.12	0.12	-	-	-	-
	lb/hr	0.50	0.50	-	0.41	0.34	0.02
Boilers #5, 6, 7	lb/MMBtu	0.12	0.12	-	-	-	-
(Total)	lb/hr	0.36	0.36	-	0.29	0.24	0.02

D. Visible emissions from Boilers #4, 5, 6, & 7 shall not exceed 10% opacity on a 6 minute block average.

(18) Boilers #8, 9, & 10

A. Capacity shall not exceed 2.0 MMBtu/hr for Boiler #8, 4.8 MMBtu/hr for Boiler #9, and 1.1 MMBtu/hr for Boiler #10.

B. Fuel use shall not exceed 70,000 gallons/yr #2 fuel oil (12 month rolling total) with a maximum sulfur content of 0.5% by weight. Fuel use records shall be maintained on a monthly basis, in addition to the 12 month rolling total.



C. Emissions shall not exceed the following:

Equipment		PM	PM <sub>10</sub>	SO <sub>2</sub>	NO <sub>x</sub>	CO	VOC
Boiler #8	lb/MMBtu	0.12	0.12	-	-	-	-
	lb/hr	0.24	0.24	1.01	0.60	0.07	0.01
Boiler #9	lb/MMBtu	0.12	0.12	-	-	-	-
	lb/hr	0.58	0.58	2.43	1.44	0.17	0.01
Boiler #10	lb/MMBtu	0.12	0.12	-	-	-	-
	lb/hr	0.13	0.13	0.56	0.33	0.04	0.01

D. Visible emissions from Boilers #8, 9, & 10 shall not exceed 20% opacity on a 6 minute block average.

(19) Diesel Generator

- A. Capacity shall not exceed 0.6 MMBtu/hr for the diesel generator.
- B. The generator shall not exceed 500 hours/year (12 month rolling total) of operation firing diesel fuel with a maximum sulfur content of 0.05% by weight (demonstrated by fuel receipts).
- C. Emissions shall not exceed the following:

Equipment		PM	PM <sub>10</sub>	SO <sub>2</sub>	NO <sub>x</sub>	CO	VOC
Generator	lb/MMBtu	0.12	0.12	-	-	-	-
	lb/hr	0.07	0.07	0.03	2.65	0.57	0.21

D. Visible emissions from the diesel generator shall not exceed 20% opacity on a 6 minute block average, except for no more than 2 six minute block averages in a continuous 3 hour period.

(20) Facility Emissions

Facility emissions shall be limited to the following, based on a 12 month rolling total:

Pollutant	Tons/yr
PM	5.7
PM <sub>10</sub>	5.7
SO <sub>2</sub>	49.6
NO <sub>x</sub>	13.9
CO	1.5
VOC	0.2

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**Departmental  
Findings of Fact and Order  
Air Emission License**

(21) The term of this Order shall be for five (5) years from the signature below.

DONE AND DATED IN AUGUSTA, MAINE THIS            DAY OF            1999.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: \_\_\_\_\_  
MARTHA G. KIRKPATRICK, COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 10/20/99

Date of application acceptance: 10/25/99

Date filed with the Board of Environmental Protection: \_\_\_\_\_

This Order prepared by Lynn Ross, Bureau of Air Quality